Meeting Notes: Community Advisory Group - Aerojet Superfund Issues, May 24, 2006

1. Attendees

Alex MacDonald (Regional Water Quality Control Board), Tricia Carter (Recorder, CH2M HILL), Janis Heple, Jean Young (SCWA), Larry Ladd, George Waegell, Tim Murphy (Aerojet), Angel Ball, Jenny Byars, Clayton Nye, Paul Harris (GSWC), Steven Hamilton (AFRPA), Linda Geissinger (AFRPA), Bill Hughes ASE

2. Approval of Meeting Minutes

The meeting minutes were accepted as final. No comments were provided.

3. Update on major milestones and deliverables produced since the March meeting for OU3 and other environmental related efforts at Aerojet, Alex MacDonald, RWQCB

Alex updated the CAG on recent OU-3 activities/deliverables. Since the last meeting, the following has been completed:

	May 24, 2006 Community Advisory Group Meeting
	Status Aerojet Operable Unit 3 Since 03/21/06 Meeting
04/06/06	Agencies commented on the "25% Design for Area 4 Bajamont Way Site and Ancil Hoffman Park Treatment Plants" submitted by Kennedy/Jenks for Aerojet (comments minor). Lease for park land at Ancil Hoffman to have been completed 3/31 still in negotiations creating Ancil Hoffman Treatment Plant delay. The Agencies may need to go before the Board of Supervisors.
04/10/06	Agencies commented Aerojet's 3/10/06 "Draft Hydrologic Modeling Performed in Support of Area 3 and 4 Groundwater Extraction System Design." Aerojet has proposed a new Area 3 design alternative for groundwater capture using five Arden-Cordova Water Service water supply wells with two dedicated extraction wells vs. all dedicated extraction wells for containment of contaminated groundwater. The Agencies have requested that the Area 3 Prefinal/Final design submission compare the two alternatives for capital cost, operation and maintenance cost, schedule, hydraulic capture, and technical issues.
04/14/06	Agencies disapprove Aerojet's 3/31/06 "Area 1 Final Design" submission. Aerojet resubmitted the document 05/05/06 and the Agencies approved the document with modifications 5/22/06 (main points 1) modified criteria for installation of Layer D extraction wells to supplement existing layer C extraction wells and 2) need for IRCTS and Mather Field remedy in Area 1 effectiveness evaluations). Layer D upgradient aquifer preservation will be done as a modification to GET E/F vs. as part of Area 1. Area 1 permanent treatment plant estimated completion date is delayed two months to 8/31/06
04/17/06	Agencies comment on Aerojet's 3/15/06 "Draft Groundwater management Zone Plan (GMZP) for Area 1." Since both documents are due at the same time and use the same supporting figures, the Agencies recommended to Aerojet that it submit a combined Final Area 1 GMZP and Area 1 Effectiveness Evaluation Report due 10/11/06 (30 days after the Chettenham water supply well pump test completion). The access agreement between Aerojet and California-American (Cal-Am) for the Chettenham water supply well pump test was signed by 04/14/06. The pump test is to be completed by 09/11/06. Cal-Am has commented on Aerojet's "90% Chettenham Wellhead Treatment Design."
05/18/06	Agencies approve Aerojet's 05/05/06 "NDMA Reformation Draft Work Plan." The final report is due 11/24/06.

	Other Aerojet Environmental Efforts Since 3/21/06 Meeting
04/03/06	EPA provided comments on Aerojet's 2/9/06 "With Paper—Source Area Investigation and Remedial Action Approach." The main comments pertain to sample size and Dense Non-Aqueous Phase Liquid characterization.
04/03/06	EPA responded to Fair Oaks Water District's (FOWD's) 3/23/06 letter. The main comments were 1) OU5 extraction N. of the American River will be approximately the same as the 1998 approved designed extraction for the American River Groundwater Extraction system, 2) toe of plume control N. of the American River by 4 of 5 extraction wells will be initiated under the Exhibit VI effectiveness provision of the Partial Consent Decree, and 3) EPA cannot require contaminated groundwater extracted to protect FOWD potable water supply wells be replaced gallon for gallon. On 05/16/06 FOWD provided a supplemental letter on its planned future groundwater extraction and refined its request for modeling to be done as part of the design of any new extraction wells north of the American River.
04/05/06	Aerojet submitted its document "Draft Vapor Intrusion Model Calibration Comparison with Conservation Estimates" to be use in the support of a 05/08/06 phone conference discussion with the Agencies. Five different data parameters for the Johnson Ettinger vapor intrusion model were compared 1) Department of Toxic Substances Control defaults, 2) the values used in the Remedial Investigation/Feasibility Study (RI/FS), 3) the most conservation site-specific values, 4) modification of the model to allow the capillary fringe to be divided into segments, and 5) using the geo-mean values for the site-specific data. The Agencies requested the Johnson Ettinger Calibration Work Plan be revised and submitted by 05/30/06 to gather additional data consisting of semi-permanent vapor probes near groundwater monitoring wells 1469 and 145, review of data in the area of monitoring well 1379 to assess if vapor probes are also required or existing data is adequate, and taking additional samples at locations sampled in September 05, to assess if soil moisture content remains consistent over time.
04/13/06	Agencies responded to Aerojet's 3/15/06 "Response to Agency 1/20/06 Comments Final RI/FS for Perimeter Operable Unit (OU)" and requested that the Agencies' comments be incorporated into the Final RI/FS. The OU5 Final RI/FS is delayed due to resolution of difference in field soil vapor sampling data vs. Johnson Ettinger Model predicted results.
04/24/06	Aerojet submitted its document "Response to Agency Comments on Material Modification Project Schedules for Zones 1, 3, and 4." Aerojet also submitted on 05/05/06 its document "Updated Plume Maps and Recommended Locations for Extraction Wells for the Material Modifications to Zones 1, 3, and 4." Agencies' comments are pending. Zones 3 and 4 need some modification for perchlorate capture.
05/10/06	Agencies approved Aerojet's letter request of 05/03/06 for a full-scale HiPOx installation at American River GET for destruction of 1,4-Dioxane and primary chlorinated ethenes. HiPOx uses ozone to destroy these contaminants currently being destroyed by oxidation using ultraviolet light. The conversion is to be completed by 09/30/06.
05/22/06	Agencies agree with minor comments to Aerojet's 12/7/05 "Draft Comments on the Draft Field Sampling Plan for the boundary Operable Unit"

The following discussions occurred for the items listed above to provide additional detail to attendees that may not be familiar with the Aerojet cleanup progress and activities:

Status of Aerojet OU-3

4/06/06 – This item addresses the leading edge of the plume that is under the American River and extends into Carmichael. GET L1 is in the Carmichael Water District Property and the treatment system located at this facility addresses NDMA contamination.

4/10/06 – Area 3 and 4 are a part of the Western Groundwater Operable Unit. GET K addresses Area

3 and GET L/L1 addresses Area 4.

4/14/06 – Area 1 is south of Folsom Boulevard. GET H is in this area. Additional capacity is needed to treat Layers C and D. Additional modeling is necessary to assess the impact of Mather and IRCTS extraction activities. A plan will be developed to put Layer D extraction wells in place with the water treated at the GET E/F facility.

4/17/06 – The Chettenham well will be operating while modeling the system.

Alex noted that OU-3 comprises the Western Groundwater Operable Unit. This is the first area that is being addressed because contamination is known to be migrating off site and impacting water supply wells. The goal is to pump at the boundary and to prevent further contamination off site. OU-5 is the Perimeter Operable Unit.

Alex noted that GET is an acronym for Groundwater Extraction and Treatment. Jenny Byars asked if this involves air stripping. Alex noted that the GETs can include air stripping as well as other technologies that are appropriate for a specific contaminant type. Jenny also asked if contamination is still migrating off the Aerojet property. Alex replied that the contamination has not been fully captured in some areas on the Aerojet property.

Other Aerojet Environmental Efforts

4/03/06 – The Fair Oaks Water District is stating that the Aerojet groundwater extraction to control their contamination has resulted in a loss of their water; therefore, the FOWD would like their water replaced. The EPA cannot require that water be provided/replaced on a gallon-to-gallon basis based on the law. Jenny asked if the treated water is injected back into the aquifer as part of any remedial processes. Alex replied that there are three locations: GET D, GET A (land based), and GET B (land based) where the water is recharged. Most of the treated water is discharged into the American River or Morrison Creek.

4/05/06 – The data resulting from the initial vapor intrusion analysis are showing that the VOC contamination from the groundwater is not reaching the surface.

4/13/06 – Aerojet is trying to verify the data. A model can be used to lift restrictions such as that allowing only commercial and industrial use, thus allowing residential use. Different contaminant levels trigger different actions depending on if the supply well in question is in OU3 or in the area still covered by the Partial Consent Decree. For example 2/3 the MCL for TCE will trigger an action for OU 3.

4/24/06 – The extraction wells associated with the Material Modification Project Schedules for Zones 1, 3, and 4 will be installed sooner instead of waiting for the Partial Consent Decree. The extraction wells will be piped back to GETs A, B, and the American River Study Area.

5/10/06 – The HiPOx system will reduce O&M costs and will go full scale at the ARGET facility.

Several additional questions were addressed during this agenda item. Angel Ball asked if contaminants are being released into Buffalo Creek. Alex responded that the treated effluent water needs to meet certain regulatory standards. This treated water is discharged from the ARGET and GET E and F facilities into Buffalo Creek. Other Aerojet discharges from their facility operations are discharged to drainage ditches to Buffalo Creek which leads to several large ponds. The ponds are regularly monitored and there have not been any detections in the discharge from the ponds back to Buffalo Creek. Since 1974, Aerojet has operated under an NPDES permit which allows Aerojet to discharge cooling waters and some process wastewaters to Buffalo Creek and its tributaries. Groundwater sometimes infiltrates into Buffalo Creek, and there have been some detections of perchlorate in the creek due to the contamination in groundwater entering the creek.

Angel asked if Aerojet has processes in place so that it does not discharge any contaminants. Tim

Murphy responded that Aerojet is heavily regulated and monitored by the regulatory world. In addition, Aerojet does not perform the same historical activities that it once did during the Cold War and Space Race;therefore, it does not produce the same level of contamination. The primary activity at that time was to test rockets. Currently, some manufacturing still takes place.

Bill Hughes asked about the Central Sacramento County Management Plan listed in the March minutes. Janis took the action to provide Bill with a link to the plan.

4. Update on Cleanup Activities in Operable Unit-3 and Beyond, Alex MacDonald, RWQCB

Alex noted that all items/issues for this topic were addressed in the previous agenda item.

5. Mather Groundwater Cleanup Update, Bill Hughes ASE

Bill Hughes began his presentation by noting that there are three programs that address contamination in the area; all of which are managed with regulatory oversight. These programs include the Boeing, Air Force, and Aerojet programs.

Mr. Hughes noted that Mather was originally a rural, ranching area. It was established in 1917 and opened in 1918. The site is approximately 5,718 acres. Mather was put on the closure list in 1988 and was closed September 1993. Mather's mission involved pilot training (WWI and WWII), navigator training (WWII to 1993), and Strategic Air Command Wing (1958 – 1989).

Mr. Hughes summarized the major Mather BRAC milestones:

- Placed on closure list: 1988 – 1st BRAC Round
- Community Reuse Plan 1991, Revised 2003
- Disposal and Reuse EIS: 1992
- Disposal ROD: 1993, Revised 1994, 1995, and 1998
- Closure Date: September 1993
- Property Transfer Methods:
    - PBC applications with various sponsors
    - EDC with LRA: 1996 – four amendments
    - Public and negotiated sales
    - Fed to Fed transfer

Mr. Hughes provided an overview of the contamination at Mather. Contamination was discovered in 1979 which primarily consists of solvents and fuels from disposal, and leaking facilities and pipes. Five of six Records of Decision are complete. There are a total of 89 Installation Restoration Program sites and two additional plumes (four plumes total). 1.1 million pounds of fuels and 5,939 pounds of solvents have been removed from soil.

Community involvement and outreach at Mather includes the Mather Restoration Advisory Board (RAB) who are involved with meetings, site tours, and document review and provide public comment. Publications and mailings include newsletters, fact sheets, and notification of cleanup activities. The Mather website is http://www.afrpa.hq.af.mil/mcclellan/mather.html. Key stakeholders include community members; Base Realignment and Closure Cleanup Team, including representatives of regulatory agencies (Environmental Protection Agency, Department of Toxic Substances Control, and the Central Valley Regional Water Quality Control Board); the RAB; Local Reuse Authority (Sacramento County), Mather land owners and tenants, and elected officials.

Groundwater cleanup status at Mather involves three pump and treat systems, two drinking water supply well-head treatment systems, and more than 500 monitoring wells. In terms of the Mather plumes in relation to the Inactive Rancho Cordova Test Site (IRCTS), perchlorate from IRCTS is generally deeper than Mather contaminant plumes. There are two areas of interaction: 1) Shallow IRCTS plume extends just south of Mather's Northeast Plume and approaches just below Mather's AC&W Plume near extraction well EX-2 and 2) Mather's deep injection for Main Base/SAC Area treatment system has local hydraulic influence on IRCTS perchlorate plume near extraction well EX-5.

Bill noted that there is a concern about the relationship between the different activities in the AC&W area and the influence on the aquifer. The current IRCTS extraction is from a zone just below the Mather plume; it will cause a downward gradient that may pull Mather's contaminants from the overlying aquifer unit.

Larry Ladd asked if there is a requirement to monitor for vapor in the groundwater hot spots. Bill responded that a thorough evaluation has not been performed, but the EPA does want to know the risk from contamination in the water table entering into buildings. Bill has conducted a study outside the SVE areas and has modeled for TCE and PCE. The model predicted there could be a risk if the more conservative proposed risk factor for TCE is used, but in that case some of the concentrations presenting a risk are below the detection limits in air. Therefore some soil vapor sampling near two buildings has been conducted to compare to the model predictions. Jenny asked if there is representation or a perspective from the medical field on these issues at Mather. Bill replied that individual health impacts are not specific from one site to another, and that the values used for risk assessment are from U.S. EPA and from the California Office of Environmental Health and Hazard Assessment.

Jenny also requested that the meetings provide information that relates to drinking water quality and what the community should be doing. She would also like to hear a presentation from Aerojet. It was noted that the meetings could use more publicity and advertising to increase meeting attendance. Tim noted that community member and group attendance has come and gone in the past. This is a reflection of the faith that the community has in the regulatory community to work responsibly.

6. Future Meeting Locations/Newspaper Announcement

The group reviewed the draft newspaper notice that will be used for the July meeting. No comments were provided on the announcement. Additional comments are welcome.

A list of meeting locations summarizing availability and cost was distributed to the group to facilitate the selection of a new meeting location. Tim Murphy stated that Aerojet would cover the fees at the new City Hall facility. The next CAG meeting will therefore be conducted at City Hall, and room reservations will be made at this location for the remainder of the year.

7. Next Meeting

Next meeting: Wednesday, July 26, 2006, City Hall, 2729 Prospect Park Drive, Rancho Cordova, 7 p.m. to 9 p.m.